

Remarks/Arguments

Claims 12, 31, 45-69, 77-87, 89-96, 100-101 and 103-104 are pending. Claims 1-11, 13-30, 32-44, 70-76, 88, 97-99, 102 and 105 have been cancelled without prejudice. Applicants reserve the right to pursue the subject matter of one or more of the cancelled claims in one or more related applications.

The Specification has been amended to remove references to hyperlinks as well as to provide the corresponding publications of two provisional applications that were referenced in the Specification. No new matter has been added.

Claims 12, 31, 87 and 104 have been amended. The subject matter encompassed by the amended claims is disclosed by the instant specification. Accordingly, no new matter has been added.

Specification

The Examiner has objected to the disclosure because it contains embedded hyperlinks. Applicants have amended the Specification to remove reference to hyperlinks. As such, Applicants request that the objections to the Specification be withdrawn.

Claim Objections

The Examiner has objected to the listing of the claims because it does not reference cancelled claim 102 and because claims 87 and 104 contain unelected subject matter. Applicants have added claim 102 to the claim listing with its proper identifier. Also, Applicants have

amended claims 87 and 104 to remove unelected subject matter. As such, Applicants request that the objections to the claim listing be withdrawn.

Rejection Under 35 U.S.C. § 102

Claims 12, 31, 45-52, 85, 86, 89-92 and 101 have been rejected under §102(b) as being anticipated by US patent No. 5,872,104 (hereafter “Vermuelen”) as evidenced by Schaefer et al., 2006, J. Bact. 188:8252-8 (hereafter “Schaefer”). Applicants respectfully disagree.

As currently amended, the claims require that the screening methods either i) use an antisense nucleic acid comprising SEQ ID NO:1463 (claim 12), ii) decrease the activity or amount of a gene product encoded by a nucleic acid that hybridizes to SEQ ID NO:1463 (claim 31), or iii) uses an antisense nucleic acid that decreases the activity or amount of SEQ ID NO:12600 (claim 100). The methods disclosed in Vermuelen do not use or suggest any of these particular antisense constructs or target sequences.

“A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference.” In re Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994).

In view of the foregoing, Applicants respectfully request withdrawal of the rejection under §102.

Rejections Under 35 U.S.C. § 103

Claims 12, 31, 45-69, 77-86, 89-96, 100 and 101 have been rejected under §103(a) as being obvious in view of International Publication WO 01/23418 (hereafter “Zalacain”), US

Patent No. 6,627,747 (hereafter "Fritz"), Zhang et al, 2000, Gene 255:297-305 (hereafter "Zhang") and Ji et al., 1999, J. Bact. 181:6585-90 (hereafter "Ji"). Applicants respectfully disagree.

Zalacain discloses yphC polypeptide and nucleotide sequences and suggests that those sequences could be used in methods to identify agonists and antagonists of yphC. Generally, the methods involve using the yphC polypeptide to identify compounds that bind to the polypeptide (see page 16, line 27 to page 17, line 1; page 17, lines 26-31 and page 19, lines 9-19 of Zalacain).

Fritz discloses that yphC is an essential gene in *Streptococcus pneumoniae* and that the gene was conserved in other bacterium. Fritz also suggests identifying inhibitors of yphC as potential anti-bacterials.

Both Zalacain and Fritz disclose identifying potential anti-bacterials that target yphC. However, this is not the Applicants invention. Applicants use cells that have been sensitized by decreasing the amount/expression yphC in assays to identify compounds that can reduce cellular proliferation. Use of traditional methods of compound discovery do not allow one to target the particular molecular mechanism sought to be inhibited. One traditionally either identifies compounds that affect growth without knowing the molecular target or identified compounds that bind to a target of interest without knowing the consequence of that binding, if any, in vivo or if the binding will even take place within the complex environment of a cell.

The use of sensitized cells of the current invention can identify compounds acting at a target of interest, whether a new target or a previously known but poorly exploited target. The "noise" of compounds acting at targets that are not of interest is decreased such that only those

compounds that act on the desired target are detected due to sensitization. Additionally, the methods used to sensitize cells to compounds acting at a target of interest may also sensitize these cells to compounds acting at other target molecules within the same biological pathway. Thus an important advantage of the present invention is the ability to reveal new targets and pathways that were previously not readily accessible to drug discovery methods.

While Zalacain or Fritz may suggest yphC as a desirable new target for anti-bacterials, they have no way of finding compounds targeted to yphC that have an affect in vivo. This is not disclosed or suggested in the cited art.

Zhang discloses a method to discern the molecular target of a known antibiotic. Increased sensitivity to the antibiotic is seen if the expression of its molecular target is decreased. One skilled in the art could use this assay to determine what known antibiotics target yphC. However, as with Zalacain and Fritz, there is no suggestion to sensitize a cell and then use that cell in an assay that could detect new compounds that affect the desired target.

Ji discloses methods of expressing antisense in *S. aureus*. Even assuming en arguendo, that one skilled in the art would be motivated to use the antisense methods of Ji with the teachings of Zalacain, Fritz and Zhang, Applicants' invention would still not be obvious. In no case, is a cell sensitized to enable identification of compounds that inhibit cell growth via the yphC pathway in vivo assayed for.

In view of the foregoing, Applicants respectfully request withdrawal of the rejection under §103.

Conclusion

It is believed that the claims now pending are in condition for allowance. Favorable action by the Examiner is earnestly requested.

Authorization

No fee is believed to be due. However, The Commissioner is hereby authorized to charge any fees which may be required for consideration of this Amendment to deposit account 13-2755.

Respectfully submitted,

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